

# Memorandum

**Date :** March 3, 2000

**Telephone:**

**To :** Robert A. Laurie, Presiding Member  
Michal C. Moore, Associate Member

**From :** **California Energy Commission** - Kae Lewis  
1516 Ninth Street Project Manager  
Sacramento, CA 95814-5512

**Subject :** **PASTORIA ENERGY FACILITY ISSUE IDENTIFICATION REPORT**

Attached is the staff's Issue Identification Report. This report serves as a preliminary scoping document as it identifies the issues the Energy Commission staff believe will require careful attention and consideration. Energy Commission staff will present the issues report at the Committee's scheduled Informational Hearing on March 13, 2000, at the Petrol Travel Center, Lebec, California.

cc: Pastoria Energy Facility Proof of Service List  
Tom Goff, So. Reg. San Joaquin Valley Unified APCD  
Peter Cross, USFWS Endangered Species Office  
Ron Daschmans, CAL-ISO Grid Planning  
Bill Taube, Wheeler Ridge-Maricopa WSD  
Pat Mayfield, Grid Facility Planning , SCE

# **Issue Identification Report**

## **Pastoria Energy Facility (99-AFC-7)**

**March 2000**

**CALIFORNIA ENERGY COMMISSION**

**Energy Facilities Siting & Environmental Protection Division**

**Kae C. Lewis, Project Manager**

**ISSUE IDENTIFICATION REPORT  
PASTORIA ENERGY FACILITY  
(99-AFC-7)**

**Table of Contents**

<b>PURPOSE OF REPORT .....</b>	<b>1</b>
<b>PROJECT DESCRIPTION.....</b>	<b>1</b>
<b>POTENTIAL MAJOR ISSUES.....</b>	<b>2</b>
AIR QUALITY.....	3
Acquisition of Emission Offsets .....	3
Choice of Best Available Control Technology (BACT).....	3
BIOLOGICAL RESOURCES.....	4
Coordination of Habitat Conservation Plans.....	4
Presence of an Unidentified Plant Species.....	5
TRANSMISSION SYSTEM ENGINEERING .....	5
Need for An Environmental Assessment of Mitigations on SCE's Transmission System .....	5
WATER RESOURCES .....	6
Development of Additional Groundwater Supplies .....	6
Selection of a Wastewater Discharge/Disposal System .....	7
<b>SUMMARY OF SCHEDULING ISSUES .....</b>	<b>7</b>



## PURPOSE OF REPORT

---

This report has been prepared by the California Energy Commission staff to inform the Committee and all interested parties of the potential issues that have been identified in the case thus far. These issues have been identified as a result of our site visit, discussions with federal, state, and local agencies, and our review of the Pastoria Energy Facility Application for Certification (AFC), Docket Number 99-AFC-7. The Issue Identification Report contains a project description, summary of potentially significant environmental and transmission system engineering issues, and a discussion of the proposed project schedule. The staff will address the status of issues and progress towards their resolution in periodic status reports to the Committee.

## PROJECT DESCRIPTION

---

On November 30, 1999, Pastoria Energy Facility (PEF), a Limited Liability Corporation (LLC), filed an Application for Certification with the California Energy Commission to construct and operate the Pastoria Energy Facility. The project as proposed is a nominal 750 megawatt (MW), natural gas-fired, combined cycle, electric generation facility to be located on an undeveloped 30-acre site on Tejon Ranch situated 30 miles south of Bakersfield at the base of the Tehachapi Mountains. The combined cycle configuration will consist of three 168 MW combustion turbine generators (CTGs), two heat recovery steam generators (HRSGs), and one 185 MW steam turbine generator (STG).

A new 230 kV electric switchyard will be constructed on the site. Electricity will be delivered via a 1.38 mile double circuit 230kV overhead transmission line which will be constructed to connect the plant switchyard to the existing Southern California Edison (SCE) Pastoria substation. The project will use natural gas supplied via a newly constructed 11.65 mile pipeline (16-20 inch) which will tie into the Kern-Mojave Pipeline. The project will obtain water through a contract with the Wheeler Ridge-Maricopa Water Storage District (WRMWSD) which serves mainly from the California Aqueduct by contract with the State Water Project. When surface water is not sufficient, WRMWSD will draw water from its groundwater storage facilities. The PEF project is also proposing to develop additional groundwater sources. The project will use a zero liquid discharge (ZLD) system to treat all wastewater with the exception of sanitary and stormwater streams.

PEF, LLC estimates the capital cost of the Pastoria Energy Facility to be between \$350 to \$450 million. The project will contribute to the local economy by creating 325 construction jobs at the peak period and approximately 25 permanent jobs to operate and maintain the plant. Construction is expected to begin in year 2001, and operation should begin in 2003.

## POTENTIAL MAJOR ISSUES

---

This portion of the report contains a discussion of the potential issues the Energy Commission staff has identified to date. The Committee should be aware that this report may not include all the significant issues that may arise during the case, as discovery is not yet complete, and other parties have not had an opportunity to identify their concerns. The identification of the potential issues contained in this report was based on our judgement of whether any of the following circumstances will occur:

- Significant impacts may result from the project which may be difficult to mitigate;
- The project as proposed may not comply with applicable laws, ordinances, regulations or standards (LORS);
- Conflicts may arise between the parties about the appropriate findings or conditions of certification for the Energy Commission decision that could result in a delay in the schedule.

The following table lists all the subject areas evaluated and notes those areas where the critical or significant issues have been identified. Even though an area is identified as having no potential issues, it does not mean that no issue will arise related to the subject area. For example, disagreements regarding the appropriate conditions of certification may arise between staff and applicant that will require discussion at workshops or even subsequent hearings. However, we do not believe such an issue will have an impact on the case schedule or that resolution will be difficult.

Major Issue	Subject Area	Major Issue	Subject Area
<b>Yes</b>	<b><i>Air Quality</i></b>	No	Noise
No	Alternatives	No	Public Health
<b>Yes</b>	<b><i>Biological Resources</i></b>	No	Socioeconomics
No	Cultural Resources	No	Traffic and Transportation
No	Efficiency and Reliability	No	Transmission Line Safety
No	Facility Design	<b>Yes</b>	<b><i>Transmission System Engineering</i></b>
No	Geologic and Paleontologic Resources	No	Visual Resources
No	Hazardous Materials	No	Waste Management
No	Land Use	<b>Yes</b>	<b><i>Water and Soil Resources</i></b>
		No	Worker Safety

The following discussion summarizes each potential issue, identifies the parties needed to resolve the issue and, where applicable, suggests a process for achieving resolution. At this time, the staff does not see any of these potential issues as not resolvable. The staff is ready to participate with the applicant, other

agencies, etc., to address the resolution of these issues. We plan to use this report to focus our analysis on issues that will ultimately be addressed in the Preliminary Staff Assessment (PSA) and Final Staff Assessment (FSA).

## **AIR QUALITY**

There are two significant air quality issues that may affect the schedule and possible outcome of the licensing process for the PEF project: 1) the acquisition of emission reduction credits (ERCs) or offsets; and, 2) the Best Available Control Technology (BACT) chosen for the project.

### ***ACQUISITION OF EMISSION OFFSETS***

The availability of ERCs or offsets and the process by which an applicant secures the offsets for their project are typically uncertain in the early stages of siting cases. However, according to the Environmental Protection Agency (USEPA), all proposed offsets must be banked as ERCs prior to issuance of the District's Preliminary Determination of Compliance (PDOC).

In the November 30, 1999 AFC filing, the applicant indicates that it had begun purchasing ERCs in the San Joaquin Valley and that they were investigating alternative sources of emission offsets. Additional information submitted in a confidential filing and discussed in a public workshop on February 18 updated the status of the applicant's offsets acquisition.

The applicant has indicated that their offsets negotiations are proceeding successfully. However, the staff continues to be concerned about the sufficiency of the offsets and PEF's ability to acquire them in a timely manner for two reasons. First, not all of the offsets for PEF presented to the Energy Commission by the applicant are emissions that have been submitted to (and are currently available in) the San Joaquin Valley Unified Air Pollution Control District's (SJVUAPCD) ERC bank. Second, in a February 21, 2000 letter the applicant has indicated that while the required amounts of NO<sub>x</sub>, VOC and SO<sub>x</sub> have been obtained, the acquisition of PM<sub>10</sub> is problematic and is likely to require interpollutant trading. The applicant is submitting to staff copies of agreements with whom it is negotiating for the purchase of the necessary ERCs. PEF plans to file with the Energy Commission a complete emission mitigation package prior to the issuance of the SJVUAPCD's Preliminary Determination of Compliance.

### ***CHOICE OF BEST AVAILABLE CONTROL TECHNOLOGY (BACT)***

To meet EPA regulations, the Best Available Control Technology (BACT) emission limits must be met by facilities that emit specified pollutants exceeding major source threshold levels. To fulfil the BACT requirement, the applicant is proposing to install the XONON control technology on its combustion turbine trains. This commercial use of XONON would be the first use of this technology on turbines of this size (168 MW). Reluctance to use this technology by previous applicants was due to uncertainties in engineering design scale-up, lack of operational experience on larger size combustion turbines, and absence of vendor guarantees. The staff believes that XONON is *potentially* a superior BACT for environmental and operational reasons. However, staff will be requesting information from the

applicant that will ensure that XONON's use is appropriate for this project. The applicant has indicated that if XONON does not prove to be an appropriate option, the back-up choice for BACT will be the traditional selective catalytic reduction (SCR) technology. The staff is evaluating project information applicable to both of these BACT options. Staff has prepared data requests to obtain additional information in these issue areas and will work closely with the District (SJVUAPCD).

## **BIOLOGICAL RESOURCES**

There are two significant biological resource issues that could affect the schedule and possible outcome of the licensing process for the PEF project: 1) coordination of Habitat Conservation Plans (HCP), and, 2) presence of an unidentified plant species. A third critical issue in this category, the need for an environmental assessment of the Southern California Edison (SCE) transmission line corridor, is discussed in the following section on transmission system engineering.

### ***COORDINATION OF HABITAT CONSERVATION PLANS***

The AFC submitted by PEF includes a proposed mitigation plan for the treatment of identified biological resources impacted by the project. Ultimately, however, a mitigation plan must incorporate conditions imposed on the project through the permitting processes of appropriate federal and state agencies (outside the jurisdiction of the Energy Commission).

Federal responsibility in this project will involve two agencies, the US Army Corps of Engineers (COE) and the US Fish and Wildlife Service (USFWS). The COE, responsible for enforcing the Clean Water Act and other water related statutes, is the lead federal agency for portions of this project which deal with the eleven streambeds and watercourses affected by the project. The USFWS, responsible for enforcing the federal Endangered Species Act (ESA), is involved because a federally listed species, the San Joaquin kit fox, may be affected by this project.

For the portions of the project which do not have a federal nexus (non-water related) the PEF will be required to create a Habitat Conservation Plan (HCP). Covered under Section 10 of the ESA, the HCP is a program that integrates project development activities with endangered species conservation. The implementation of the HCP allows the issuance of *incidental take* permits authorizing the taking of species when it is incidental to a development activity. As part of its long term plan for Tejon Ranch property development, the Tejon Ranch Company itself has already been creating a HCP with the USFWS.

The Section 10 process can take considerably longer than the more usual Section 7 (Take Permit and Biological Permit) process, so the Pastoria project HCP may not be finalized prior to the project certification.

Since the project is proposed for a portion of the Tejon Ranch that is currently developing a HCP, key players in the resolution of this issue are USFWS and Tejon Ranch. The Section 10 process in this case will require their cooperation and the coordination with the applicant and Energy Commission staff. (The California Department of Fish and Game has decided that a state incidental take permit is not



necessary. However, they will be kept in the information loop.) The first discussions planned with all of these players will take place during the week of March 13. An important consideration for this project will be the development of a HCP that addresses the San Joaquin kit fox and does not conflict with the HCP presently being developed for the nearby areas of Tejon Ranch.

### ***PRESENCE OF AN UNIDENTIFIED PLANT SPECIES***

During 1999 field surveys, an unidentified *Calochortus* (lily) species was found by the biological resources consultant and reported in the AFC. Staff was not provided any information about the plant's final identification. Consequently, staff does not know whether the *Calochortus* is already a described and common species, subspecies or variety or a new (and possibly rare and endangered) species, subspecies or variety. It is recognized that a complete study of this plant cannot occur until the appropriate seasonal data (based on the plant's life cycle) can be obtained. Without evidence to the contrary, the staff believes that this plant should be treated as a sensitive species that requires suitable mitigation during project construction and operation.

### **TRANSMISSION SYSTEM ENGINEERING**

The critical issue related to the transmission system that could affect the schedule and possible outcome of the licensing process for this project is the need for PEF to provide an environmental assessment of extensive mitigations on SCE's transmission system.

### ***NEED FOR AN ENVIRONMENTAL ASSESSMENT OF MITIGATIONS ON SCE'S TRANSMISSION SYSTEM***

In the AFC, the PEF applicant indicated that electricity from the proposed plant will be delivered to the existing electrical grid by way of a short 230 kV double circuit interconnection to Southern California Edison's (SCE) transmission system at the Pastoria substation which is located 1.25 miles from the PEF site. On December 31, 1999, the applicant submitted the System Impact Study completed by SCE which addresses the adequacy of PEF's interconnection plans as stated in the AFC.

The SCE Study indicated that mitigations to the existing transmission system will be required to accommodate the PEF due to the existence of base case overloads, severe loading levels under 'critical' contingencies and numerous additional contingencies which exceed line loading criteria. The Transmission Owner Tariff Facilities Study Agreement contracted between the applicant and SCE on February 7 indicates that four major mitigations will be evaluated: Pastoria-Pardee, Pastoria-Bailey, Bailey-Pardee and Antelope-Vincent. For each mitigation the study will examine: 1) the transmission line facilities, substation facilities, and equipment required to reconductor the lines, and, 2) the facilities to replace existing single circuit towers with single or double circuit towers. The total distance of these mitigation projects is approximately 40 miles.

If reconductoring or reconstruction of an existing line or the construction of a new transmission line is necessary for this project, current (2000) biological resource

information for the transmission line corridor will be required in order to address the biological resource implications of the transmission line work. If spring/summer surveys are needed, this biological assessment has implications for the project schedule. Additional surveys may also be required for cultural and paleontological resources depending on the adequacy of any existing resource information. Depending on the location of new transmission facilities, additional environmental analysis may be needed (e.g., visual and land use). The applicant will have to work closely with SCE to obtain engineering and construction plans and available environmental data. PEF will be responsible for providing the required environmental assessment for SCE's transmission system mitigations.

Staff has prepared data requests to obtain the information needed from PEF so that it can evaluate the indirect environmental impacts of any transmission system mitigation facilities.

## **WATER RESOURCES**

The significant water resource issue that could affect the schedule and possible outcome of the licensing process for the PEF concerns the development of additional groundwater supplies by the applicant. An additional concern involving the wastewater discharge system has been recently resolved.

### ***DEVELOPMENT OF ADDITIONAL GROUNDWATER SUPPLIES***

The PEF project will require an average annual 5,100 acre-feet of water for plant operations. As stated in the AFC, these supplies are to be provided through a long-term contract with the Wheeler Ridge-Maricopa Water Storage District (WRMWSD). WRMWSD will supply PEF with both surface water from the California Aqueduct (State Water Project or SWP) and groundwater from various basins, including the Kern Water Bank. An additional groundwater source in the White Wolf Basin is also being developed and should be available for use by PEF. The surface water for this project will primarily be SWP non-entitlement water and, therefore, its availability depends, along with other factors, on the type of water year (wet or dry).

In a workshop held on February 17, the applicant indicated that a new additional groundwater source is being considered. In order for such an alternative to be considered, staff will need additional information on this new supply, including source, availability, chemical and physical properties of the aquifer and groundwater in order to evaluate the potential impacts to other uses and the environmental impacts of this alternate.

In particular, groundwater pumping to supply the proposed project may adversely affect neighboring domestic and community wells through drawdown. The cumulative impacts to community water supplies and infrastructure must also be evaluated. In addition, groundwater pumping may affect the movement of groundwater contamination (if present), potentially degrading water supplies. Finally, the time it may require to negotiate for and develop this new supply may affect the project schedule.

## ***SELECTION OF A WASTEWATER DISCHARGE/DISPOSAL SYSTEM***

This issue, although very recently resolved, is mentioned because it had potentially significant implications for the project licensing and schedule. In the AFC the applicant indicated that wastewater would be discharged through injection to existing oil wells, processed on site using a zero liquid discharge system (ZLD), or a combination of the two systems. In a subsequent filing dated December 29, 1999 and at the staff workshop on February 17, the applicant proposed that while PEF's preferred method of wastewater discharge would be ZLD, they were still investigating the injection well option. Disposal of wastewater by way of deep injection wells has the potential to impact groundwater supplies. The staff was concerned because the AFC contains insufficient information to analyze the injection well option and this option would require an underground injection control permit from the USEPA prior to issuance of the (FSA). On March 1, the applicant sent a letter indicating that the injection well option should be removed from consideration.

## **SUMMARY OF SCHEDULING ISSUES**

---

Staff has begun its analyses of the major issues identified above, as well as its assessment of other environmental and engineering aspects of the applicant's proposal. Of the issues presented in this report, most appear to be resolvable within the typical project schedule. The issue of need for environmental assessment of transmission system mitigations, however, presents a serious challenge to that schedule. To deal with this challenge a recommendation will be presented which allows the applicant sufficient time to provide the necessary environmental assessment of its transmission mitigations.

The Energy Commission staff proposes to schedule the filing of its PSA to occur 60-90 days from the submittal of PEF's environmental assessment (the specific time of filing will depend on the completeness of the environmental assessment submittal).

Following is staff's proposed schedule for key events of the project. Dates are provided for key events prior to the submittal of PEF's environmental assessment mentioned above. The schedule for all key events subsequent to this submittal by the applicant will be determined at that time. The ability of staff to be expeditious in meeting that schedule will depend on the applicant's timely response to: staff's data requests, the SJVUACPD's filing of its preliminary and final Determination of Compliance, the approval of a Habitat Conservation Plan by the US Fish and Wildlife Service, the timely submittal of the detailed facility study by SCE and timely review by the Independent System Operator (CAL-ISO).

**Energy Commission Staff's Proposed Schedule  
for the  
Pastoria Energy Facility  
(99-AFC-7)**

<b>DATE</b>	<b>EVENT</b>
11-30-99	Pastoria Energy Facility Project AFC Filed
1-26-00	Energy Commission Deems AFC Complete
3-3-00	Staff Files Issue Identification Report and Data Requests
3-13-00	<b>Information Hearing, Issue Scoping &amp; Site Visit</b>
3-14/15-00	<b>Staff Workshop on Data Requests</b>
3-16-00	<b>Staff Workshop on Habitat Conservation Plans (Biological Resources)</b>
4-3-00	Data Responses Due from Applicant
5-16-00	Applicant Provides SCE's Detailed Facilities Study to the CAL-ISO and CEC
5-26-00	SJVUAPCD files Preliminary Determination of Compliance (PDOC)
?	Applicant submits Environmental Assessment for Transmission Mitigations (EATM)
60-90 days (from EATM)	Staff files Preliminary Staff Assessment (PSA)
60 days after PSA	Staff files Final Staff Assessment (FSA)
60 days for PDOC	SJVUAPCD files Determination of Compliance (DOC)